

SEQUENCE LISTING

<110> Lehar, Sophie
Manning, Stephen
Coyle, Anthony J.
Gutierrez-Ramos, Jose-Carlos

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Tyr	Val	Asp	Leu	Leu	Leu	Asn	Pro	Glu	Arg	Tyr	Thr	Gly	Tyr	Lys	Gly
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Pro	Asp	Ala	Trp	Arg	Ile	Trp	Ser	Val	Ile	Tyr	Glu	Glu	Asn	Cys	Phe
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 Arg Ala Phe Tyr Arg Leu Ile Ser Gly Leu His Ala Ser Ile Asn Val
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 His Leu Ser Ala Arg Tyr Leu Leu Gln Asp Thr Trp Leu Glu Lys Lys
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Pro Cys His Ser Asp Glu Val Pro Asp Gly Ile Lys Ser Ala Ser Tyr
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Lys Tyr Ser Glu Glu Ala Asn Arg Ile Glu Glu Cys Glu Gln Ala Glu
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Phe Lys Cys Arg Leu Trp Gly Lys Leu Gln Thr Gln Gly Leu Gly Thr
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1301

Ala Leu Lys Ile Leu Phe Ser Glu Lys Leu Ile Ala Asn Met Pro Glu
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1349

Ser Gly Pro Ser Tyr Glu Phe Gln Leu Thr Arg Gln Glu Ile Val Ser
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3070

Parameter	Control	Treatment
(a) Body weight (g)	180.0 ± 10.0	180.0 ± 10.0
(b) Food intake (g)	10.0 ± 1.0	10.0 ± 1.0
(c) Estrus	1.0 ± 0.0	1.0 ± 0.0
(d) Estrus + estrus	1.0 ± 0.0	1.0 ± 0.0
(e) Estrus + estrus + estrus	1.0 ± 0.0	1.0 ± 0.0
(f) Estrus + estrus + estrus + estrus	1.0 ± 0.0	1.0 ± 0.0
(g) Estrus + estrus + estrus + estrus + estrus	1.0 ± 0.0	1.0 ± 0.0
(h) Estrus + estrus + estrus + estrus + estrus + estrus	1.0 ± 0.0	1.0 ± 0.0
(i) Estrus + estrus + estrus + estrus + estrus + estrus + estrus	1.0 ± 0.0	1.0 ± 0.0
(j) Estrus + estrus + estrus + estrus + estrus + estrus + estrus + estrus	1.0 ± 0.0	1.0 ± 0.0
(k) Estrus + estrus + estrus + estrus + estrus + estrus + estrus + estrus + estrus	1.0 ± 0.0	1.0 ± 0.0

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Asp Val Glu Thr Ile Asp Lys Phe Asn Asn Tyr Arg Leu Phe Pro Arg
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Lys	Pro 210	Gln	Thr	Ile	Gln	Arg 215	Pro	Leu	Ala	Ser	Gly 220	Arg	Gly	Lys	Ser	
Lys 225	Glu	Asn	Thr	Phe 230	Tyr	Asn	Trp	Leu	Glu	Gly 235	Leu	Cys	Val	Glu	Lys 240	
Arg	Ala	Phe	Tyr	Arg 245	Leu	Ile	Ser	Gly	Leu 250	His	Ala	Ser	Ile	Asn	Val 255	
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Trp	Gly	His 275	Asn	Val	Thr	Glu	Phe 280	Gln	Gln	Arg	Phe	Asp 285	Gly	Ile	Leu	
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Pro	Asp	Phe	Gln 325	Leu	Phe	Thr	Gly	Asn 330	Lys	Val	Gln	Asp	Ala	Glu 335	Asn	
Lys	Ala	Leu	Leu 340	Leu	Glu	Ile	Leu	His 345	Glu	Ile	Lys	Ser	Phe 350	Pro	Leu	
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Tyr His Leu Ser Asn Asn Ser Val Ser Phe Phe Leu Asn Asn Pro Asp	
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agc tcc cag gga agc tat tac ttc tgc agc ctg tcc att ttt gac cca	393
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Pro Pro Phe Gln Glu Arg Asn Leu Ser Gly Gly Tyr Leu His Ile Tyr	
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Leu Thr Lys Thr Lys Gly Ser Gly Asn Ala Val Ser Ile Lys Asn Pro
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Demographic Data		Clinical Data		Laboratory Data		Treatment Data		Outcome Data	
Variable	Value	Variable	Value	Variable	Value	Variable	Value	Variable	Value
Age (years)	45.2	Gender (Male/Female)	28/17	Weight (kg)	72.5	Height (cm)	178.3	Duration of illness (years)	12.5
Weight (kg)	72.5	Height (cm)	178.3	Duration of illness (years)	12.5	Previous treatments	3	Current treatment	1
Duration of illness (years)	12.5	Previous treatments	3	Current treatment	1	Response rate (%)	85	Side effects	2
Response rate (%)	85	Side effects	2	Follow-up (months)	6	Recurrence rate (%)	10	Quality of life (score)	78
Follow-up (months)	6	Recurrence rate (%)	10	Quality of life (score)	78	Cost of treatment (\$)	1200	Healthcare utilization (days)	15
Cost of treatment (\$)	1200	Healthcare utilization (days)	15	Patient satisfaction (%)	92	Physician satisfaction (%)	88	Overall study score	95
Patient satisfaction (%)	92	Physician satisfaction (%)	88	Overall study score	95				
Physician satisfaction (%)	88	Overall study score	95						
Overall study score	95								

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1342

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 Gln Gln Leu Lys Met Arg Leu Phe Arg Glu Arg Glu Val Leu Cys Glu
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 100 105 110
 Ile Phe Asp Pro Pro Pro Phe Gln Glu Arg Asn Leu Ser Gly Gly Tyr
 115 120 125
 Leu His Ile Tyr Glu Ser Gln Leu Cys Cys Gln Leu Lys Leu Trp Leu
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 Leu Ile Ile Trp Phe Ser Lys Lys Lys Tyr Gly Ser Ser Val His Asp
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Gln Phe Lys Met Gln Leu Leu Lys Gly Gly Gln Ile Leu Cys Asp Leu
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Thr Lys Thr Lys Gly Ser Gly Asn Thr Val Ser Ile Lys Ser Leu Lys
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Cys Trp Leu Thr Lys Lys Tyr Ser Ser Ser Val His Asp Pro Asn Gly
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gaa tac atg ttc atg aga gca gtg aac aca gcc aaa aaa tct aga ctc 693

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 Thr Asp Val Thr Leu
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Gln Gln Phe Lys Met Gln Leu Leu Lys Gly Gly Gln Ile Leu Cys Asp
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Leu Thr Lys Thr Lys Gly Ser Gly Asn Thr Val Ser Ile Lys Ser Leu
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Lys Phe Cys His Ser Gln Leu Ser Asn Asn Ser Val Ser Phe Phe Leu
      85          90          95

Tyr Asn Leu Asp His Ser His Ala Asn Tyr Tyr Phe Cys Asn Leu Ser
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Ile Phe Asp Pro Pro Pro Phe Lys Val Thr Leu Thr Gly Gly Tyr Leu
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His Leu Ser Ala Arg Tyr Leu Leu Gln Glu Thr Trp Leu Glu Lys Lys	
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1689

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1749

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1809

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1869

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1929

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1989

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2049

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2109

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2169

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2229

ggactcctgg tcaactgctg ctgtgcagtc agaggcccag ggtccagcag cccggcgga
2289

acgggtgctg cctcttctc cagttagctc cagctcaggt ctgagaccg tgctgagaaa
2349

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2409

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2469

gcggatgcca gagaggcagg tgggctgtgg ctggactggg ccggagctgg cttccttacc
2529

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2589

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2649

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2709

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2769

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2829

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2889

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2949

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3009

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3069

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3189

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3309

tgcgtgacct caccagcct aggagggagg tgcattcagg gtagatttgc ctctattca
3369

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3429

gaccaggaac cccagaagga gacagagcct gccacatcct cccacgccag gccctgggcc
3489

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3549

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3609

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3669

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3729

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3789

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3849

cgcggacgcg tgggtcgac
3868

<210> 16
<211> 384
<212> PRT
<213> Homo sapiens

<400> 16
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Thr Leu Glu Glu Leu Thr Ala Val Pro Phe Val Asn Gly Val Leu Phe
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Cys Lys Val Arg Leu Leu Asp Gly Gly Asp Phe Val Ser Leu Ser Ser
35 40 45
Arg Glu Glu Val Gln Glu Asn Cys Val Arg Trp Arg Lys Arg Phe Thr
50 55 60
Phe Val Cys Lys Met Ser Ala Asn Pro Ala Thr Gly Leu Leu Asp Pro
65 70 75 80
Cys Val Phe Arg Val Ser Val Arg Lys Glu Leu Lys Gly Gly Lys Ala
85 90 95
Tyr Ser Lys Leu Gly Phe Ala Asp Leu Asn Leu Ala Glu Phe Ala Gly
100 105 110
Ser Gly Ser Thr Val Arg Cys Cys Leu Leu Glu Gly Tyr Asp Thr Lys
115 120 125
Asn Thr Arg Gln Asp Asn Ser Ile Leu Lys Val Thr Ile Gly Met Phe
130 135 140
Leu Leu Ser Gly Asp Pro Cys Phe Lys Thr Pro Pro Ser Thr Ala Lys
145 150 155 160

Ser Ile Ser Ile Pro Gly Gln Asp Ser Ser Leu Gln Leu Thr Cys Lys
165 170 175

Gly Gly Gly Thr Ser Ser Gly Gly Ser Ser Thr Asn Ser Leu Thr Gly
180 185 190

Ser Arg Pro Pro Lys Ala Arg Pro Thr Ile Leu Ser Ser Gly Leu Pro
195 200 205

Glu Glu Pro Asp Gln Asn Leu Ser Ser Pro Glu Glu Val Phe His Ser
210 215 220

Gly His Ser Arg Asn Ser Ser Tyr Ala Ser Gln Gln Ser Lys Ile Ser
225 230 235 240

Gly Tyr Ser Thr Glu His Ser Arg Ser Ser Ser Leu Ser Asp Leu Thr
245 250 255

His Arg Arg Asn Thr Ser Thr Ser Ser Ser Ala Ser Gly Gly Leu Gly
260 265 270

Met Thr Val Glu Gly Pro Glu Gly Ser Glu Arg Glu His Arg Pro Pro
275 280 285

Glu Lys Pro Pro Arg Pro Pro Arg Pro Leu His Leu Ser Asp Arg Ser
290 295 300

Phe Arg Arg Lys Lys Asp Ser Val Glu Ser His Pro Thr Trp Val Asp
305 310 315 320

Asp Thr Arg Ile Asp Ala Asp Ala Ile Val Glu Lys Ile Val Gln Ser
325 330 335

Gln Asp Phe Thr Asp Gly Ser Asn Thr Glu Asp Ser Asn Leu Arg Leu
340 345 350

Phe Val Ser Arg Asp Gly Ser Ala Thr Leu Ser Gly Ile Gln Leu Ala
355 360 365

Thr Arg Val Ser Ser Gly Val Tyr Glu Pro Val Val Ile Glu Ser His
370 375 380

<210> 17
<211> 442
<212> PRT
<213> Trypanosoma brucei

<400> 17
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Val Trp Gln Ile Leu Leu Arg Ala Glu Leu Asp Gly Val Ser Phe Phe

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Gly	Met	Tyr	Ile	Ser	Ala	Asn	Asn	Ser	Gly	Ala	Gly	Ser	Tyr	Val	Arg	
		35					40					45				
Thr	Lys	Lys	Gly	Asn	Ala	Leu	Lys	Glu	Gly	Phe	Cys	Ser	Leu	Thr	Met	
	50					55					60					
Asp	Glu	Val	Ser	Gln	Asn	Thr	Glu	Gly	Ile	Thr	Gly	Leu	Leu	Asn	Asn	
	65				70					75					80	
Ile	Thr	Ser	His	Pro	Tyr	Phe	Arg	Tyr	Phe	Lys	Val	Asn	Leu	Asp	Arg	
				85					90					95		
Glu	Cys	Arg	Tyr	Trp	Val	Ala	Glu	Ala	Ser	Cys	Thr	Cys	Asp	Ser	Asn	
			100					105					110			
Gly	Cys	Gln	Ile	Cys	Thr	Cys	Asp	Asp	Ser	Gly	Ile	Pro	Glu	Thr	Leu	
		115					120					125				
Lys	Tyr	Pro	Tyr	Asp	Met	Ser	Asp	Val	Ser	Ala	Val	Glu	Arg	Arg	Thr	
	130					135					140					
Ala	Pro	Asp	Lys	His	Ala	Ala	Lys	Gly	Phe	Glu	Asp	Glu	Ile	Lys	Pro	
	145				150					155					160	
Ile	Asp	Pro	Asp	Arg	Asp	Ala	Thr	Tyr	Val	Asp	Leu	Leu	Gln	Asn	Pro	
				165					170					175		
Glu	Ala	Asn	Thr	Gly	Tyr	Ser	Gly	Pro	Lys	Ala	Ala	Arg	Val	Trp	Gln	
			180					185					190			
Ala	Val	Tyr	Asp	Asn	Cys	Asn	Ile	Asp	Gly	Leu	Pro	Ser	Asn	Asp	Thr	
		195					200					205				
Ala	Gly	Val	Glu	Asn	Arg	Glu	Lys	Ala	Leu	Leu	Arg	Gln	Leu	Leu	Ser	
	210					215					220					
Gly	Leu	His	Thr	Ser	Ile	Thr	Met	His	Val	Ala	Ala	Phe	Phe	Tyr	Asn	
	225				230					235					240	
Asp	Thr	Lys	Gly	Asp	Ser	Pro	Leu	Arg	Ser	Leu	Gly	Val	Leu	Asn	Asn	
				245					250					255		
Pro	Asn	Ile	Ser	Phe	Tyr	Pro	Asn	Cys	Gly	Met	Phe	Arg	Arg	Ile	Val	
			260					265					270			
Lys	Asn	Asp	Glu	Phe	Ile	Arg	Asn	Leu	Phe	Val	Val	Tyr	Gln	Phe	Val	
		275					280					285				
Leu	Arg	Ala	Val	Ala	Lys	Thr	Lys	Arg	Ala	Phe	Leu	Ala	Asn	Ser	Ser	
	290					295					300					
Leu	Tyr	Asn	Ser	Gly	Phe	Asn	Gly	Ala	Ala	Thr	Asp	Gly	Asp	Val	Arg	

Cys Lys Ile Glu Phe Met Tyr Pro Pro Pro Tyr Leu Asp Asn Glu Arg
115 120 125

Ser Asn Gly Thr Ile Ile His Ile Lys Glu Lys His Leu Cys His Thr
130 135 140

Gln Ser Ser Pro Lys Leu Phe Trp Ala Leu Val Val Val Ala Gly Val
145 150 155 160

Leu Phe Cys Tyr Gly Leu Leu Val Thr Val Ala Leu Cys Val Ile Trp
165 170 175

Thr Asn Ser Arg Arg Asn Arg Leu Leu Gln Val Thr Thr Met Asn Met
180 185 190

Thr Pro Arg Arg Pro Gly Leu Thr Arg Lys Pro Tyr Gln Pro Tyr Ala
195 200 205

Pro Ala Arg Asp Phe Ala Ala Tyr Arg Pro
210 215

<210> 19
<211> 220
<212> PRT
<213> Homo sapiens

<400> 19
Met Leu Arg Leu Leu Leu Ala Leu Asn Leu Phe Pro Ser Ile Gln Val
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Thr Gly Asn Lys Ile Leu Val Lys Gln Ser Pro Met Leu Val Ala Tyr
20 25 30

Asp Asn Ala Val Asn Leu Ser Cys Lys Tyr Ser Tyr Asn Leu Phe Ser
35 40 45

Arg Glu Phe Arg Ala Ser Leu His Lys Gly Leu Asp Ser Ala Val Glu
50 55 60

Val Cys Val Val Tyr Gly Asn Tyr Ser Gln Gln Leu Gln Val Tyr Ser
65 70 75 80

Lys Thr Gly Phe Asn Cys Asp Gly Lys Leu Gly Asn Glu Ser Val Thr
85 90 95

Phe Tyr Leu Gln Asn Leu Tyr Val Asn Gln Thr Asp Ile Tyr Phe Cys
100 105 110

Lys Ile Glu Val Met Tyr Pro Pro Pro Tyr Leu Asp Asn Glu Lys Ser
115 120 125

Asn Gly Thr Ile Ile His Val Lys Gly Lys His Leu Cys Pro Ser Pro
130 135 140

Leu Phe Pro Gly Pro Ser Lys Pro Phe Trp Val Leu Val Val Val Gly
145 150 155 160

Gly Val Leu Ala Cys Tyr Ser Leu Leu Val Thr Val Ala Phe Ile Ile
165 170 175

Phe Trp Val Arg Ser Lys Arg Ser Arg Leu Leu His Ser Asp Tyr Met
180 185 190

Asn Met Thr Pro Arg Arg Pro Gly Pro Thr Arg Lys His Tyr Gln Pro
195 200 205

Tyr Ala Pro Pro Arg Asp Phe Ala Ala Tyr Arg Ser
210 215 220

<210> 20
<211> 223
<212> PRT
<213> Mus sp.

<400> 20
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Ser Arg Thr Trp Pro Phe Val Ala Leu Leu Thr Leu Leu Phe Ile Pro
20 25 30

Val Phe Ser Glu Ala Ile Gln Val Thr Gln Pro Ser Val Val Leu Ala
35 40 45

Ser Ser His Gly Val Ala Ser Phe Pro Cys Glu Tyr Ser Pro Ser His
50 55 60

Asn Thr Asp Glu Val Arg Val Thr Val Leu Arg Gln Thr Asn Asp Gln
65 70 75 80

Met Thr Glu Val Cys Ala Thr Thr Phe Thr Glu Lys Asn Thr Val Gly
85 90 95

Phe Leu Asp Tyr Pro Phe Cys Ser Gly Thr Phe Asn Glu Ser Arg Val
100 105 110

Asn Leu Thr Ile Gln Gly Leu Arg Ala Val Asp Thr Gly Leu Tyr Leu
115 120 125

Cys Lys Val Glu Leu Met Tyr Pro Pro Pro Tyr Phe Val Gly Met Gly
130 135 140

Asn Gly Thr Gln Ile Tyr Val Ile Asp Pro Glu Pro Cys Pro Asp Ser
145 150 155 160

Asp Phe Leu Leu Trp Ile Leu Val Ala Val Ser Leu Gly Leu Phe Phe

	165		170		175
Tyr Ser Phe Leu Val Ser Ala Val Ser Leu Ser Lys Met Leu Lys Lys					
	180		185		190
Arg Ser Pro Leu Thr Thr Gly Val Tyr Val Lys Met Pro Pro Thr Glu					
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Pro Glu Cys Glu Lys Gln Phe Gln Pro Tyr Phe Ile Pro Ile Asn					
	210		215		220
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<211> 223					
<212> PRT					
<213> Homo sapiens					
<400> 21					
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Ala Arg Thr Trp Pro Cys Thr Leu Leu Phe Phe Leu Leu Phe Ile Pro					
	20		25		30
Val Phe Cys Lys Ala Met His Val Ala Gln Pro Ala Val Val Leu Ala					
	35		40		45
Ser Ser Arg Gly Ile Ala Ser Phe Val Cys Glu Tyr Ala Ser Pro Gly					
	50		55		60
Lys Ala Thr Glu Val Arg Val Thr Val Leu Arg Gln Ala Asp Ser Gln					
	65		70		75
Val Thr Glu Val Cys Ala Ala Thr Tyr Met Thr Gly Asn Glu Leu Thr					
		85		90	95
Phe Leu Asp Asp Ser Ile Cys Thr Gly Thr Ser Ser Gly Asn Gln Val					
	100		105		110
Asn Leu Thr Ile Gln Gly Leu Arg Ala Met Asp Thr Gly Leu Tyr Ile					
	115		120		125
Cys Lys Val Glu Leu Met Tyr Pro Pro Pro Tyr Tyr Leu Gly Ile Gly					
	130		135		140
Asn Gly Thr Gln Ile Tyr Val Ile Asp Pro Glu Pro Cys Pro Asp Ser					
	145		150		155
Asp Phe Leu Leu Trp Ile Leu Ala Ala Val Ser Ser Gly Leu Phe Phe					
		165		170	175
Tyr Ser Phe Leu Leu Thr Ala Val Ser Leu Ser Lys Met Leu Lys Lys					
	180		185		190

Arg Ser Pro Leu Thr Thr Gly Val Tyr Val Lys Met Pro Pro Thr Glu
195 200 205

Pro Glu Cys Glu Lys Gln Phe Gln Pro Tyr Phe Ile Pro Ile Asn
210 215 220

<210> 22

<211> 284

<212> PRT

<213> Caenorhabditis elegans

<400> 22

Met Asn Phe Ile Ser Ala Lys Leu Val Phe Val Pro Trp Leu Trp Asn
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Lys Met Ala Phe Ile Lys Arg Lys Thr Val Lys Phe Ser Val Asp Leu
20 25 30

Gln Val Cys Gln Leu Ser Asp Val Pro Leu Val Asn Ala Thr Val Phe
35 40 45

Gly Lys Met Arg Leu Leu Asp Gly Gly Ser Phe Glu Glu Ala Thr Glu
50 55 60

Arg Val Glu Glu Gln Lys Gly Gly Lys Ser Tyr Tyr Lys Leu Gly Phe
65 70 75 80

Val Asp Ile Asn Leu Ser Glu Tyr Ala Ala Ser Gly Val Glu Gly Ile
85 90 95

Ser Arg Thr Tyr Leu Leu Asn Gly Tyr Thr Ser Asn Gln Arg Leu Asp
100 105 110

Asn Ser Lys Val Cys Ile Lys Val Ala Met Thr His Gln Ser Ala Asp
115 120 125

Pro Phe Phe Arg Val Pro Arg Leu Ser Thr Phe Gly Pro Arg Gln Asp
130 135 140

Gly Ala Ile Asp Gln Asp Gly Phe Arg Ala Asp Asp Glu Thr Asp Ser
145 150 155 160

Glu Glu Gly Thr Ser Ser His Pro Lys Leu Ser Asn Val Asp Val Leu
165 170 175

Glu Ser Ser Ser Ala Ala Ser Asn Ser Gln Val Asp Glu Pro Val Val
180 185 190

Glu Arg Arg Val Ile His Pro Pro Gln His Pro Thr Cys Gln Leu Arg
195 200 205

Arg Phe Ser Gln Asp Arg Ser Ala Gln Lys Ile Gln His Ser Arg Phe
210 215 220

Asp Ala Asp Asn Val Ile Asp Lys Ile Ile Ala Glu Cys Arg Ile Ser
225 230 235 240

Glu Asp Glu Val Glu Ser Asn Ser Gly Gly Leu Val Leu Glu Lys Phe
245 250 255

Leu Asp Lys His Gly Lys Pro Leu Val Asn Pro Arg Gln Pro Val Lys
260 265 270

Arg Thr Ser Tyr Val Ala Glu His Phe Asn Asp Ala
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<210> 23

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 23

aaccttctag tcctttgggc tgc

23

<210> 24

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:
oligonucleotide primer

<400> 24

ggcccaggct acaggctg

18